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DATE: Thursday, August 05, 2004

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☐	L5	(peg) same (polylact$ or polyglycol$ or polyvinyl) same emulsion	81
☐	L4	(peg) same (polylact$ or polyglycol$ or polyvinyl) same micelle	51
☐	L3	(peg) same (polylact$ or polyglycol$ or polyvinyl) same lipid	89
☐	L2	(peg) same (polylact$ or polyglycol$ or polyvinyl) same phospholipid	32
☐	L1	peg same (polylact$ or polyglycol$ or polyvinyl)	1967

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Search Results - Record(s) 1 through 30 of 32 returned.

☐ 1. Document ID: US 6716412 B2

Using default format because multiple data bases are involved.

L2: Entry 1 of 32 File: USPT Apr 6, 2004

US-PAT-NO: 6716412
DOCUMENT-IDENTIFIER: US 6716412 B2

TITLE: Methods of ultrasound treatment using gas or gaseous precursor-filled compositions

DATE-ISSUED: April 6, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		

US-CL-CURRENT: 424/9.52; 424/450, 424/9.5, 424/9.51, 514/44, 600/437, 604/21

Full Title Citation Front Review Classification Date Reference

☐ 2. Document ID: US 6696084 B2

L2: Entry 2 of 32 File: USPT Feb 24, 2004

US-PAT-NO: 6696084
DOCUMENT-IDENTIFIER: US 6696084 B2

TITLE: Spray drying process and compositions of fenofibrate

DATE-ISSUED: February 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pace; Gary W.	Winchester	MA		
Mishra; Awadesh K.	Quebec			CA
Snow; Robert A.	West Chester	PA		
Parikh; Indu	Durham	NC		
Guivarc'h; Pol-Henri W.	Quebec			CA

US-CL-CURRENT: 424/451; 252/363.5, 424/458, 424/464, 424/469, 424/470, 424/489, 424/490

Full | Title | Citation | Front | Review | Classification | Date | Reference

☐ 3. Document ID: US 6569452 B1

L2: Entry 3 of 32 File: USPT May 27, 2003

US-PAT-NO: 6569452
DOCUMENT-IDENTIFIER: US 6569452 B1
**** See image for Certificate of Correction ****

TITLE: Pharmaceutical formulations in hydroxypropylmethylcellulose capsules

DATE-ISSUED: May 27, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Civaroli; Paola	Milan			IT
Muggetti; Lorena	Milan			IT
Martini; Alessandro	Milan			IT

US-CL-CURRENT: 424/451; 424/452, 424/462, 424/484, 424/486, 514/283, 514/778, 514/778, 514/962

Full | Title | Citation | Front | Review | Classification | Date | Reference

☐ 4. Document ID: US 6558698 B2

L2: Entry 4 of 32 File: USPT May 6, 2003

US-PAT-NO: 6558698
DOCUMENT-IDENTIFIER: US 6558698 B2

TITLE: Microencapsulated bioactive agents and method of making

DATE-ISSUED: May 6, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Morrison; Dennis R.	Kemah	TX		
Mosier; Benjamin	Houston	TX		

US-CL-CURRENT: 424/451; 264/4.33, 424/450, 424/452, 424/489, 424/490, 427/213.33

Full | Title | Citation | Front | Review | Classification | Date | Reference

☐ 5. Document ID: US 6548047 B1

L2: Entry 5 of 32 File: USPT Apr 15, 2003

US-PAT-NO: 6548047
DOCUMENT-IDENTIFIER: US 6548047 B1

TITLE: Thermal preactivation of gaseous precursor filled compositions

DATE-ISSUED: April 15, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		

US-CL-CURRENT: 424/9.51; 424/450, 424/9.4, 424/9.5, 424/9.52

Full Title | Citation | Front | Review | Classification | Date | Reference | Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

☐ 6. Document ID: US 6517866 B1

L2: Entry 6 of 32 File: USPT Feb 11, 2003

US-PAT-NO: 6517866
DOCUMENT-IDENTIFIER: US 6517866 B1

TITLE: Sertraline salts and sustained-release dosage forms of sertraline

DATE-ISSUED: February 11, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Am Ende; Mary Tanya	Griswold	CT		
Curatolo; William John	Niantic	CT		
Friedman; Hylar Lewis	Brattleboro	VT		
Friesen; Dwayne Thomas	Bend	OR		
Herbig; Scott Max	East Lyme	CT		
Shankar; Ravi Mysore	Groton	CT		
West; James Blair	Bend	OR		

US-CL-CURRENT: 424/457; 424/458, 424/463, 424/468, 424/469, 424/473, 424/474, 424/484, 424/490

Full Title | Citation | Front | Review | Classification | Date | Reference | Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

☐ 7. Document ID: US 6499984 B1

L2: Entry 7 of 32 File: USPT Dec 31, 2002

US-PAT-NO: 6499984
DOCUMENT-IDENTIFIER: US 6499984 B1

TITLE: Continuous production of pharmaceutical granulation

DATE-ISSUED: December 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ghebre-Sellassie; Isaac	Morris Plains	NJ		
Mollan, Jr.; Matthew J.	Succasunna	NJ		
Pathak; Nitin	Succasunna	NJ		
Lodaya; Mayur	Succasunna	NJ		
Fessehaie; Mebrahtu	New York	NY		

US-CL-CURRENT: 425/135; 241/152.2, 241/260.1, 264/117, 425/174.8E, 425/202, 425/204, 425/222, 425/224

Full | Citation | Front | Review | Classification | Date | Reference | Draw De

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☐ 8. Document ID: US 6485528 B1

L2: Entry 8 of 32 File: USPT Nov 26, 2002

US-PAT-NO: 6485528
DOCUMENT-IDENTIFIER: US 6485528 B1

TITLE: Agents for treating keratin fibers

DATE-ISSUED: November 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bartels; Holger	Hamburg			DE
Wolff; Wolfgang	Bargteheide			DE
Hoepfner; Stefan	Hamburg			DE
Rohweder; Sandra	Hamburg			DE

US-CL-CURRENT: 8/405; 8/406, 8/409, 8/410, 8/411

Full | Citation | Front | Review | Classification | Date | Reference | Draw De

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☐ 9. Document ID: US 6479540 B1

L2: Entry 9 of 32 File: USPT Nov 12, 2002

US-PAT-NO: 6479540
DOCUMENT-IDENTIFIER: US 6479540 B1
** See image for Certificate of Correction **

TITLE: Compositions of tocol-soluble therapeutics

DATE-ISSUED: November 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Constantinides; Panayiotis P.	Gurnee	IL		
Lambert; Karel J.	Woodinville	WA		
Tustian; Alexander K.	Bothell	WA		
Nienstedt; Andrew M.	Seattle	WA		

US-CL-CURRENT: 514/458; 424/400, 514/937, 514/938, 549/407

Full | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 10. Document ID: US 6444660 B1

L2: Entry 10 of 32 File: USPT Sep 3, 2002

US-PAT-NO: 6444660
DOCUMENT-IDENTIFIER: US 6444660 B1

TITLE: Lipid soluble steroid prodrugs

DATE-ISSUED: September 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		
Shen; DeKang	Tucson	AZ		

US-CL-CURRENT: 514/180

Full | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 11. Document ID: US 6391343 B1

L2: Entry 11 of 32 File: USPT May 21, 2002

US-PAT-NO: 6391343
DOCUMENT-IDENTIFIER: US 6391343 B1

TITLE: Fibrinogen-coated particles for therapeutic use

DATE-ISSUED: May 21, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yen; Richard C. K.	Yorba Linda	CA		

US-CL-CURRENT: 424/491; 424/78.06, 427/2.14, 514/2, 514/834, 514/937, 514/944, 516/77

Full | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 12. Document ID: US 6368620 B2

L2: Entry 12 of 32 File: USPT Apr 9, 2002

US-PAT-NO: 6368620
DOCUMENT-IDENTIFIER: US 6368620 B2

TITLE: Formulations comprising lipid-regulating agents

DATE-ISSUED: April 9, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Liu; Rong	Gurnee	IL		
Pan; Qinghai	Lake Bluff	IL		
Lee; Dennis	Highland Park	IL		

US-CL-CURRENT: 424/451; 424/456, 424/489, 424/490

Full | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 13. Document ID: US 6348214 B1

L2: Entry 13 of 32 File: USPT Feb 19, 2002

US-PAT-NO: 6348214
DOCUMENT-IDENTIFIER: US 6348214 B1

TITLE: Materials and methods for making improved liposome compositions

DATE-ISSUED: February 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Onyuksel; Hayat	Western Springs	IL		
Rubinstein; Israel	Highland Park	IL		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 264/4.6, 514/2, 514/21

Full | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 14. Document ID: US 6322810 B1

L2: Entry 14 of 32 File: USPT Nov 27, 2001

US-PAT-NO: 6322810
DOCUMENT-IDENTIFIER: US 6322810 B1

TITLE: Materials and methods for making improved micelle compositions

DATE-ISSUED: November 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Alkan-Onyuksel; Hayat	Western Springs	IL	60558	
Rubinstein; Israel	Highland Park	IL	60035	

US-CL-CURRENT: 424/450; 424/1.21, 424/812, 424/9.321, 424/9.51, 424/94.3, 428/402.2, 436/829, 514/21, 514/937

☐ 15. Document ID: US 6217886 B1

L2: Entry 15 of 32 File: USPT Apr 17, 2001

US-PAT-NO: 6217886
DOCUMENT-IDENTIFIER: US 6217886 B1

TITLE: Materials and methods for making improved micelle compositions

DATE-ISSUED: April 17, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Onyuksel; Hayat	Western Springs	IL		
Rubinstein; Israel	Highland Park	IL		

US-CL-CURRENT: 424/401; 264/4.1, 264/4.3, 264/4.6, 424/1.21, 424/450, 424/9.321, 424/9.51, 514/2, 514/21, 514/937

☐ 16. Document ID: US 6197333 B1

L2: Entry 16 of 32 File: USPT Mar 6, 2001

US-PAT-NO: 6197333
DOCUMENT-IDENTIFIER: US 6197333 B1

TITLE: Materials and methods for making improved liposome compositions

DATE-ISSUED: March 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Onyuksel; Hayat	Western Springs	IL		
Rubinstein; Israel	Highland Park	IL		

US-CL-CURRENT: 424/450; 424/401

Review | Classification | Date | Reference

☐ 17. Document ID: US 6190691 B1

L2: Entry 17 of 32 File: USPT Feb 20, 2001

US-PAT-NO: 6190691
DOCUMENT-IDENTIFIER: US 6190691 B1

TITLE: Methods for treating inflammatory conditions

DATE-ISSUED: February 20, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mak; Vivien H. W.	Menlo Park	CA		

US-CL-CURRENT: 424/449; 514/859, 514/861, 514/863, 514/886, 514/887, 604/20

Review | Classification | Date | Reference

☐ 18. Document ID: US 6123923 A

L2: Entry 18 of 32 File: USPT Sep 26, 2000

US-PAT-NO: 6123923
DOCUMENT-IDENTIFIER: US 6123923 A
** See image for Certificate of Correction **

TITLE: Optoacoustic contrast agents and methods for their use

DATE-ISSUED: September 26, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		
Wu; Yunqiu	Tucson	AZ		

US-CL-CURRENT: 424/9.52; 424/450, 424/9.1, 424/9.2, 424/9.3, 424/9.6, 514/449

Review | Classification | Date | Reference

☐ 19. Document ID: US 6099864 A

L2: Entry 19 of 32 File: USPT Aug 8, 2000

US-PAT-NO: 6099864
DOCUMENT-IDENTIFIER: US 6099864 A

TITLE: In situ activation of microcapsules

DATE-ISSUED: August 8, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Morrison; Dennis R.	Kemah	TX		
Mosier; Benjamin	Houston	TX		

US-CL-CURRENT: 424/489; 264/4.1, 264/4.3, 264/4.32, 264/4.33, 424/423, 424/[illegible]0, 428/402.2, 428/402.21, 514/951

20. Document ID: US 6090800 A

L2: Entry 20 of 32 File: USPT Jul 18, 2000

US-PAT-NO: 6090800
DOCUMENT-IDENTIFIER: US 6090800 A

TITLE: Lipid soluble steroid prodrugs

DATE-ISSUED: July 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		
Shen; DeKang	Tucson	AZ		

US-CL-CURRENT: 514/180; 552/574

21. Document ID: US 6071494 A

L2: Entry 21 of 32 File: USPT Jun 6, 2000

US-PAT-NO: 6071494
DOCUMENT-IDENTIFIER: US 6071494 A

TITLE: Methods for diagnostic imaging using a contrast agent and a renal vasodilator

DATE-ISSUED: June 6, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		

US-CL-CURRENT: 424/9.4; 424/9.3, 424/9.51, 424/9.52

Cita... | Review | Classification | Date | Reference

☐ 22. Document ID: US 5962477 A

L2: Entry 22 of 32 File: USPT Oct 5, 1999

US-PAT-NO: 5962477
DOCUMENT-IDENTIFIER: US 5962477 A
** See image for Certificate of Correction **

TITLE: Screening methods for cytokine inhibitors

DATE-ISSUED: October 5, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mak; Vivian	Menlo Park	CA		

US-CL-CURRENT: 514/327; 424/78.05

Cita... | Review | Classification | Date | Reference

☐ 23. Document ID: US 5846517 A

L2: Entry 23 of 32 File: USPT Dec 8, 1998

US-PAT-NO: 5846517
DOCUMENT-IDENTIFIER: US 5846517 A
** See image for Certificate of Correction **

TITLE: Methods for diagnostic imaging using a renal contrast agent and a vasodilator

DATE-ISSUED: December 8, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Unger; Evan C.	Tucson	AZ		

US-CL-CURRENT: 424/9.52

Cita... | Review | Classification | Date | Reference

☐ 24. Document ID: US 5843473 A

L2: Entry 24 of 32 File: USPT Dec 1, 1998

US-PAT-NO: 5843473

DOCUMENT-IDENTIFIER: US 5843473 A

TITLE: Method of treatment of infected tissues

DATE-ISSUED: December 1, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Woodle; Martin C.	Menlo Park	CA		
Bakker-Woudenberg; Irma A.J.M.	Bergschenhoek			NL
Martin; Francis J.	San Francisco	CA		

US-CL-CURRENT: 424/450; 514/62, 514/78

Cita | Review | Classification | Date | Reference

25. Document ID: US 5827531 A

L2: Entry 25 of 32 File: USPT Oct 27, 1998

US-PAT-NO: 5827531
DOCUMENT-IDENTIFIER: US 5827531 A

TITLE: Microcapsules and methods for making

DATE-ISSUED: October 27, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Morrison; Dennis R.	Kemah	TX		
Mosier; Benjamin	Houston	TX		

US-CL-CURRENT: 424/450; 264/4.32, 264/4.33, 424/451, 424/489, 424/490, 427/213.3, 428/402.21, 428/402.24

Cita | Review | Classification | Date | Reference

26. Document ID: US 5512268 A

L2: Entry 26 of 32 File: USPT Apr 30, 1996

US-PAT-NO: 5512268
DOCUMENT-IDENTIFIER: US 5512268 A

TITLE: Polymeric shells for medical imaging prepared from synthetic polymers, and methods for the use thereof

DATE-ISSUED: April 30, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Grinstaff; Mark W.	Pasadena	CA		
Desai; Neil P.	Los Angeles	CA		
Suslick; Kenneth S.	Champaign	IL		
Soon-Shiong; Patrick	Los Angeles	CA		
Sandford; Paul A.	Los Angeles	CA		
Merideth; Noma R.	Pacific Palisades	CA		

US-CL-CURRENT: 424/9.322; 424/9.42, 424/9.5, 424/9.52, 436/173

Citation | Front | Review | Classification | Date | Reference

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27. Document ID: US 5508021 A

L2: Entry 27 of 32 File: USPT Apr 16, 1996

US-PAT-NO: 5508021
DOCUMENT-IDENTIFIER: US 5508021 A

TITLE: Non-fluorinated polymeric shells for medical imaging

DATE-ISSUED: April 16, 1996

INVENTOR INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Grinstaff; Mark W.	Pasadena	CA		
Desai; Neil P.	Los Angeles	CA		
Suslick; Kenneth S.	Champaign	IL		
Soon-Shiong; Patrick	Los Angeles	CA		
Sandford; Paul A.	Los Angeles	CA		
Merideth; Noma R.	Pacific Palisades	CA		

US-CL-CURRENT: 424/9.322; 424/9.42, 424/9.5, 436/173

Citation | Front | Review | Classification | Date | Reference

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28. Document ID: US 5505932 A

L2: Entry 28 of 32 File: USPT Apr 9, 1996

US-PAT-NO: 5505932
DOCUMENT-IDENTIFIER: US 5505932 A

TITLE: Method for the preparation of fluorocarbon-containing polymeric shells for medical imaging

DATE-ISSUED: April 9, 1996

INVENTOR INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Grinstaff; Mark W.	Pasadena	CA		
Desai; Neil P.	Los Angeles	CA		
Suslick; Kenneth S.	Champaign	IL		
Soon-Shiong; Patrick	Los Angeles	CA		
Sandford; Paul A.	Los Angeles	CA		
Merideth; Noma R.	Pacific Palisades	CA		

US-CL-CURRENT: 424/9.3; 424/9.322, 424/9.34, 424/9.37, 424/9.5, 424/9.52, 436/173

Citation | Front | Review | Classification | Date | Reference

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29. Document ID: US 5376369 A

L2: Entry 29 of 32 File: USPT Dec 27, 1994

US-PAT-NO: 5376369
DOCUMENT-IDENTIFIER: US 5376369 A

TITLE: Vaccine adjuvant

DATE-ISSUED: December 27, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Allison; Anthony C.	Belmont	CA		
Byars; Noelene E.	Sunnyvale	CA		
Fu; Cherng-Chyi	Saratoga	CA		
Lidgate; Deborah M.	Los Altos	CA		
Felgner; Philip L.	Rancho Santa Fe	CA		
Foster; Linda C.	Sunnyvale	CA		
Lee; William A.	Los Altos	CA		

US-CL-CURRENT: 424/278.1; 424/279.1, 424/283.1, 436/543, 514/8, 514/885, 530/322, 530/806, 530/815

Citation | Front | Review | Classification | Date | Reference

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30. Document ID: US 5356633 A

L2: Entry 30 of 32 File: USPT Oct 18, 1994

US-PAT-NO: 5356633
DOCUMENT-IDENTIFIER: US 5356633 A

TITLE: Method of treatment of inflamed tissues

DATE-ISSUED: October 18, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Woodle; Martin C.	Menlo Park	CA		
Martin; Francis J.	San Francisco	CA		
Huang; Shi K.	Castro Valley	CA		

US-CL-CURRENT: 424/450; 424/423, 424/426, 514/863, 514/886

Citation | Review | Classification | Date | Reference

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Terms	Docu
(peg) same (polylact$ or polyglycol$ or polyvinyl) same phospholipid	

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	DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR		
L2	(peg) same (polylact$ or polyglycol$ or polyvinyl) same phospholipid	0	L2
L1	peg same (polylact$ or polyglycol$ or polyvinyl)	0	L1

END OF SEARCH HISTORY

L3: Entry 85 of 89 File: USPT Jul 6, 1993

US-PAT-NO: 5225212
DOCUMENT-IDENTIFIER: US 5225212 A

TITLE: Microreservoir liposome composition and method

DATE-ISSUED: July 6, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Martin; Francis J.	San Francisco	CA		
Woodle; Martin C.	Menlo Park	CA		
Redemann; Carl	Walnut Creek	CA		
Yau-Young; Annie	Palo Alto	CA		
Radhakrishnan; Ramachandran	Fremont	CA		

US-CL-CURRENT: 424/450; 424/426, 424/78.31

CLAIMS:

It is claimed:

1. A liposome composition effective to extend, to at least 24 hours, the period of effective activity of a therapeutic compound which can be administered intravenously in a therapeutically effective amount and which is cleared in free form from the bloodstream with a halflife of less than about 4 hours, comprising

liposomes (i) composed of vesicle-forming lipids and between 1-20 mole percent of a vesicle-forming lipid derivatized with a polymer selected from the group consisting of polyethyleneglycol, polyacetic acid and polyglycolic acid, and (ii) having a selected mean particle diameter in the size range between about 0.1 to 0.4 microns, and

the compound in liposome-entrapped form,

for intravenous administration at a dose of the composition which contains an amount of the compound in liposome-entrapped form which is at least three times such therapeutically effective amount.

2. The composition of claim 1, wherein the hydrophilic polymer is polyethyleneglycol having a molecular weight between about 1,000-5,000 daltons.

3. The composition of claim 2, wherein the polymer is derivatized to a phospholipid.

4. The composition of claim 1, wherein the polymer is selected from the group consisting of polyacetic acid and polyglycolic acid.

5. A liposome composition effective to extend, to at least 48 hours, the period of therapeutic activity of a polypeptide which can be administered intravenously in a therapeutically effective amount, which is cleared in free form from the bloodstream with a halflife of less than about 4 hours, and whose therapeutically active blood concentration is in the picogram-nanogram/ml concentration range, comprising

liposomes (i) composed of vesicle-forming lipids and between 1-20 mole percent of a vesicle-forming lipid derivitized with a polymer selected from the group consisting of polyethyleneglycol, polyacetic acid and polyglycolic acid, and (ii) having a selected mean particle diameter in the size range between about 0.1 to 0.4 microns, and

the polypeptide in liposome-entrapped form,

for intravenous administration at a dose of the composition which contains an amount of the polypeptide liposome-entrapped form which is at least three times such therapeutically effective amount.

6. The composition of claim 5, wherein the hydrophilic polymer is polyethyleneglycol having a molecular weight between about 1,000-5,000 daltons.

7. The composition of claim 5, wherein the polypeptide is a peptide hormone which is therapeutically active at a plasma concentration in the picogram/ml range, and the liposome composition is effective to release the hormone in a therapeutically effective dose for a period of at least five days after intravenous administration of the composition.

8. The composition of claim 7, wherein the peptide hormone is vasopressin.

9. The composition of claim 5, wherein the compound is a protein selected from the group consisting of superoxide dismutase, glucocerebrosidase, asparaginase, adenosine deaminase, interferons (alpha, beta, and gamma) interleukin (1,2,3,4,5,6,7), tissue necroses factor (TNF-alpha, beta), colony stimulating factors (-CSF (macrophage), G-CSF (granulocyte), GM-CSF (granulocyte, macrophage), TPA, prourokinase, and urokinase, HIV-1 vaccine, hepatitis B vaccine, malaria vaccine, and melanoma vaccine, erythropoietin (EPO), factor VIII, bone growth factor, fibroblast growth factor, nerve growth factor, platelet-derived growth factor, tumor growth factors (alpha, beta), somatomedin C (IGF-1), and a ribosome inhibitor protein.

10. The composition of claim 9, wherein the protein is macrophage colony stimulating factor.

11. A method of extending, to at least 24 hours, the period of effective activity of a therapeutic compound which can be administered intravenously in a therapeutically effective amount, and which has a halflife in the bloodstream in free form of less than about 4 hours, comprising

providing a liposome composition containing liposomes (i) composed of vesicle-forming lipids and between 1-20 mole percent of a vesicle-forming lipid derivitized with ah polymer selected from the group consisting of

polyethyleneglycol, polyacetic acid and polyglycolic acid, and (ii) having a selected mean particle diameter in the size range between about 0.1 to 0.4 microns, and the compound at least about 70% in liposome-entrapped form, and

administering the liposome composition intravenously to a subject at a dose which contains an amount of the compound which is at least three times such therapeutically effective amount.

12. The method of claim 11, wherein the hydrophilic polymer is polyethyleneglycol having a molecular weight between about 1,000-5,000 daltons.

13. The method of claim 11, wherein the polymer is selected from the group consisting of polylactic acid and polyglycolic acid.

14. The method of claim 11, wherein the compound is a peptide hormone which is therapeutically active at a plasma concentration in the picogram-to nanogram/ml range, and said administering is effective to release the hormone in a therapeutically effective dose for a period of at least five days.

15. The method of claim 14, wherein the peptide hormone is vasopressin.

16. The method of claim 11, wherein the compound is a protein selected from the group consisting of superoxide dismutase, glucocerebrosidase, asparaginase, adenosine deaminase, interferons (alpha, beta, and gamma), interleukin (1,2,3,4,5,6,7), tissue necroses factor (TNF - alpha, beta), colony stimulating factors (M-CSF (macrophage), G-CSF (granulocyte), GM-CSF (granulocyte, macrophage), TPA, prourokinase, and urokinase, HIV-1 protease, erythropoietin (EPO), factor VIII, bone growth factor, fibroblast growth factor, nerve growth factor, platelet-derived growth factor, tumor growth factors (alpha, beta), somatomedin C (IGF-1), and a ribosome inhibiting protein.

17. The method of claim 16, wherein the protein is macrophage colony stimulating factor.

18. A liposome composition effective to extend, to at least one week, the period of effective activity of a therapeutic compound which can be administered in a therapeutically effective amount, comprising

liposomes (i) composed of vesicle-forming lipids and between 1-20 mole percent of a vesicle-forming lipid derivitized with a polymer selected from the group consisting of polyethyleneglycol, polyacetic acid and polyglycolic acid, and (ii) having a selected mean particle diameter in the size range between about 0.1 to 0.4 microns, and

the compound in liposome-entrapped form,

for subcutaneous administration at a dose of the composition which contains an amount of the compound in liposome-entrapped form which is at least two times such therapeutically effective intravenously administered amount.

19. The composition of claim 18, wherein the compound is a polypeptide selected from the group consisting of superoxide dismutase, glucocerebrosidase, asparaginase, adenosine deaminase, interferons (alpha, beta, and gamma), interleukin (1,2,3,4,5,6,7), tissue necrosis factor (TNF - alpha, beta), colony stimulating factors (M-CSF (macrophage), G-CSF

(granulocyte), GM-CSF (granulocyte, macrophage), TPA, prourokinase, and urokinase, HIV-1 vaccine, hepatitis B vaccine, malaria vaccine, and melanoma vaccine, erythropoietin (EPO), factor VIII, bone growth factor, fibroblast growth factor, nerve growth factor, platelet-derived growth factor, tumor growth factors (alpha, beta), somatomedin C (IGF-1), and a ribosome inhibitor protein.

30. The composition of claim 19, wherein the polypeptide is vasopressin.

31. A method of extending, to at least one week, the period of effective activity of a therapeutic compound which can be administered in a therapeutically effective amount, comprising

providing a liposome composition containing liposomes (i) composed of vesicle-forming lipids and between 1-20 mole percent of a vesicle-forming lipid derivitized with a polymer selected from the group consisting of polyethyleneglycol, polyacetic acid and polyglycolic acid, and (ii) having a selected mean particle diameter in the size range between about 0.1 and 0.4 microns, and the compound at least about 70% in liposome-entrapped form, and

administering the composition subcutaneously to a subject at a dose which contains an amount of the compound in liposome-entrapped form which is at least ten times such therapeutically effective intravenously administered amount.

32. The method of claim 21, wherein the compound is a peptide hormone selected from the group consisting of superoxide dismutase, glucocerebrosidase, asparaginase, adenosine deaminase, interferons (alpha, beta, and gamma), interleukin (1,2,3,4,5,6,7), tissue necroses factor (TNF-alpha, beta), colony stimulating factors (M-CSF (macrophage), G-CSF (granulocyte), GM-CSF (granulocyte, macrophage), TPA, prourokinase, and urokinase, HIV-1 vaccine, hepatitis B vaccine, malaria vaccine, and melanoma vaccine, erythropoietin (EPO), factor VIII, bone growth factor, fibroblast growth factor, nerve growth factor, platelet-derived growth factor, tumor growth factors (alpha, beta), somatomedin C (IGF-1), and a ribosome inhibitor protein.

33. The method of claim 22, wherein the polypeptide is vasopressin.

34. A liposome composition composed of vesicle-forming lipids and a vesicle-forming lipid derivatized with a hydrophilic polymer selected from the group consisting of polylactic acid and polyglycolic acid.

35. A lipid composition composed of a vesicle-forming lipid having a polar head group, and a polylactic acid moiety derivatized to said head group.

36. A lipid composition composed of a vesicle-forming lipid having a polar head group, and a polyglycolic acid moiety derivatized to said head group.

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L5: Entry 67 of 81 File: USPT Dec 27, 1994

DOCUMENT-IDENTIFIER: US 5376369 A
TITLE: Vaccine adjuvant

Brief Summary Text (52):
The term "surfactant" refers to non-toxic surface active agents capable of stabilizing the emulsion. There are a substantial number of emulsifying and suspending agents generally used in the pharmaceutical sciences. These include naturally derived materials such as gums, vegetable protein, alginates, cellulose derivatives, phospholipids (whether natural or synthetic), and the like. Certain polymers having a hydrophilic substituent on the polymer backbone have surfactant activity, for example, povidone, polyvinyl alcohol, and glycol ether-based compounds. Compounds derived from long chain fatty acids are a third substantial group of emulsifying and suspending agents usable in this invention. Though any of the foregoing surfactants can be used so long as they are non-toxic, glycol ether-based surfactants are preferred. Preferred surfactants are non-ionic. These include polyethylene glycols (especially PEG 200, 300, 400, 600 and 900), Span.RTM., Arlacel.RTM., Tween.RTM., Myrj.RTM., Brij.RTM. (all available from ICI America Inc., Wilmington, Del.), polyoxyethylene, polyol fatty acid esters, polyoxyethylene ether, polyoxypropylene fatty ethers, bee's wax derivatives containing polyoxyethylene, polyoxyethylene lanolin derivatives, polyoxyethylene fatty glycerides, glycerol fatty acid esters or other polyoxyethylene acid alcohol or ether derivatives of long-chain fatty acids of 12-21 carbon atoms. The presently preferred surfactant is Tween.RTM. 80 (otherwise known as polysorbate 80 or polyoxyethylene 20 sorbitan monooleate), although it should be understood that any of the above-mentioned surfactants would be suitable after lack of toxicity is demonstrated.

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L5: Entry 75 of 81 File: JPAB Nov 28, 1985

DOCUMENT-IDENTIFIER: JP 60239417 A
TITLE: PREPARATION OF FREEZE-DRIED EMULSION DRUG

Abstract Text (2):
CONSTITUTION: A vehicle (e.g. saccharide, urea, etc.) and a water-soluble polymer selected from PVA, polyvinyl pyrrolidone, low-molecular weight gelatin, PEG, etc. are dissolved in the aqueous phase of an O/W-type emulsion. The obtained aqueous solution is mixed with an oil (e.g. soybean oil, linoleic acid, etc.) preferably at a ratio of (30~15):1, emulsified, and freeze-dried to obtain the objective drug preparation. The dissolution of the water-soluble polymer in the aqueous phase is effective to prevent the coagulation of the emulsion particles in the freeze-drying process, and accordingly, the obtained cake has excellent appearance and solubility and gives an emulsion having oil particle diameter of $\leqslant 2 \sim 3 \mu m$.

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